DOCUMENT RESUME

ED 191 925 UD 020 442

AUTHOR Jackson, Javon; Calsyn, Robert J.
TITLE Evaluation of a Self-Development Approach to Drug Education: Some Mixed Results.
PUB DATE [77]
NOTE 25p.; Not available in paper copy due to reproduction quality of original document.

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Drug Abuse; *Drug Education; High Schools; *Nondirective Counseling; Program Effectiveness; *Self Directed Groups; *Workshops

ABSTRACT

An experimental evaluation was conducted of a drug education program in two high schools. The experimental group consisted of students who had participated in a 50 hour workshop which combined didactic presentations and interactive activities between peers. The control group consisted of students from the drug education program waiting list. It was hypothesized that the students who received the drug education program, when compared to a control group would: (1) score higher on an overdose drug knowledge test; (2) score lower on a drug usage test; (3) score higher on a self-esteem test; and (4) score higher on an empathy test. The results supported only the fourth hypothesis; that is, students receiving the drug education program did better on the empathy test than did the control group students. There were no significant differences between experimental and control students on the drug knowledge, drug usage, or self-esteem tests. (Author/MK) SD

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED191925

Evaluation of a Self-Development Approach to Drug Education: Some Mixed Results[1]

Javon Jackson, Ph.D.

Robert J. Calsyn, Ph.D.

Michigan State University

Dr. Javon Jackson
1735 Woodland #6
Palo Alto, CA 94303
415-326-2272

Running Head: Evaluation of a Self-Development Approach

UDO 204442

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Javon Jackson

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Evaluation of a Self-Development Approach to Drug Education

Some Mixed Results

In response to increasing drug abuse in schools, many communities have introduced drug education programs. However, recent reviews [1, 2] indicate that although many drug education programs are now in existence, little is known about the effectiveness of these programs. The few evaluations that have been done [3, 4, 5, 6] have concluded that drug education programs have not been effective in reducing drug abuse. In fact, some studies [7, 8] have reported that drug education programs have actually increased drug usage. Similarly, DuPont's [9] survey of drug educators and student participants of drug education programs concludes that both the educators and the students feel that the majority of existing drug education programs in their schools were ineffective and should be abolished.

Failure to recognize the importance of peer influence in drug taking behavior has been advanced by many as a primary reason for the failure of drug education efforts. Considerable research [10, 11, 12, 13] has found that students' experiences with drugs were facilitated and sustained by peers. For this reason many drug educators have argued that formal didactic presentations on drugs should be abandoned and replaced with a less structured situation which allows for considerable interaction among the students themselves [14].

Critics of drug education programs have also argued that didactic approaches have failed because they are based on the false premise that drug taking behavior is caused by a lack of information on the dangers of drugs. Thus, these didactic approaches have assumed that if the students were aware of the dangers of drugs they would cease using drugs. Considerable research has shown that not only is this premise false but there may be an inverse relationship between knowledge about drugs and drug taking behavior. The more information the individual possesses about drugs, the more likely he is to have favorable attitudes toward the use of drugs and the more likely he is to use drugs [7, 15, 16, 17].

Other critics of drug education programs have argued that drug education programs have been unsuccessful because they fail to recognize that drug usage is merely a symptom of more pervasive needs of students. Several studies [1, 18, 19] which have found that drug users have lower self-esteem than non-drug users provide some support for this position. As a solution to the problem, critics urge that drug education programs allocate considerable time for self-development activities [20, 21, 22 23].

In summary, critics of previous drug education efforts have argued for developing drug education curricula which offer more than drug information, including peer interaction and opportunities for self-development The STRIDE (Students, Teachers, and Residents Involved in Drug Education) program was developed with these criticisms in mind. The program was a 50-hour multi-phase workshop which took place in a relaxed setting outside of the classroom. In addition to students, workshop participants included teachers and other community residents. Workshop leaders were

not teachers but rather community mental health program workers trained in group processes. While there were some didactic presentations, the bulk of the workshop was devoted to interaction type activities. One component of the STRIDE program included a communication skills workshop which lasted for two eight-hour days; the interpersonal process recall (IPR) techniqued developed by Kagan [24] for teaching empathy skills was the principle teaching device. Another day and a half were devoted to the related activities of values clarification and development of problem solving-skills. Values clarification is a technique developed by Raths, Harmin and Simon [25] which encourages students to examine their actions to see if they are consistent with the values that they espouse. Trainers using this method do not answer student's questions with authoritative answers. Instead the trainers make less definitive responses aimed at helping students discover their own beliefs on any particular topic. Finally, two days of the workshop were devoted to drug information and over-dose aid training. While these presentations were somewhat more didactic, workshop leaders continued to encourage participants to interact with each other.

Although 80% of previous STRIDE participants had described their experiences in the program as positive, developers of the STRIDE program were not content with these testimonials; consequently, they asked the authors to conduct a rigorous evaluation. Due to the limited number of openings for any STRIDE workshop it was possible to randomly assign

students who volunteered for STRIDE into treatment and control groups. Control students were guaranteed enrollment in a future STRIDE workshop at the conclusion of the study. Based on the goals of the STRIDE program the following hypotheses were tested:

1. After treatment, STRIDE participants would be more knowledgeable about drugs and drug emergency procedures than the control group.

2. After treatment, STRIDE participants would use fewer drugs than the control group.

3. After treatment, STRIDE participants would indicate more positive self-concepts than the control group. (The authors were not able to find or develop specific instruments for measuring the outcome of the values clarification process. However, since the director of the STRIDE program considered self-esteem a logical consequence of a successful value clarification experience, self-esteem was chosen as a reasonable outcome measure.)

4. After treatment, STRIDE participants would be more skilled in empathy and communication skills than the control group.

Although the participants in the STRIDE workshop program included teachers and community residents as well as students, this evaluation focused only on student outcomes since there were not enough teachers and community resident volunteers for the workshop to permit random assignment to treatment and control groups.

Methods

Design

A 2x2x3 design was employed with two between group factors of school and experimental condition and one within group factor of time (pretest, posttest one month after treatment, and a posttest eight months after treatment). Participants for the study were obtained from a pool of volunteers from each of the schools who had expressed a desire to participate in the STRIDE program. School 1 was located in a semi-rural setting and School 2 was located in an urban industrial area of 100,000 people. Assignment to conditions was made randomly to experimental and control conditions at each school. In the rural school 16 participants received the STRIDE program and 33 participants were in the control condition. At the urban school, 13 participants received treatment and 10 participants were in the control group. The portion of the experimental to control subjects were different for each school because there were more volunteers in the rural school than the urban school. Although 72 subjects were assigned at the beginning of the experiment, only 45 subjects completed the questionnaires at all three measuring points. Evidence will be presented later which indicates that this attrition did not systematically bias the evaluation.

Procedure

Pretest assessment on all of the measuring instruments occurred in the respective cafeterias of the schools. After being introduced by the director of the STRIDE program, the first author explained the purpose of the evaluation study and emphasized that the participants' responses would be anonymous. To insure anonymity a method used by Rossi, Groves,

and Grafstein [26] was used for this study. The method requires that each participant create his own unique alias and use the alias on all of his questionnaires during the duration of the experiment. The method worked extremely well; only four participants forgot their alias and these participants were able to recall their alias when showed a list of all aliases that had been used in the experiment. Thus, no information was lost and the responses were truly anonymous. After respondents had completed the pretest assessment, they drew slips of paper from a box designating either the experimental or control condition. The two post-test assessments were conducted in the same manner as the pretest at intervals of one and eight months respectively.

Measuring Instruments

The drug use questionnaire was used to measure frequency of usage of the following drugs: nicotine, marijuana, caffeine, alcohol, glue, amphetamines, tranquilizers, barbiturates, hypnotics, opiates, cocain, and hallucinogens. Half the questionnaire asked the student about his own usage, while the other questions asked the student about his friends' drug taking behaviors. For each drug the respondents were asked to indicate

1. current usage,
2. expected usage within a year, and
3. expected lifetime usage on a five point scale.

The five incremental levels for the current drug usage questions went from daily to never. The five levels for the future variables went from definitely will to definitely will not. Possible scale values can range from 72 to 360, with low values indicating high usage.

The authors had intended to create separate scales for self-usage and friends' usage as well as separate scales for current usage and future usage. However, cluster analysis of the pretest scores did not justify these or any other rational dimensions of drug usage, but rather suggested one general factor.

The empathy questionnaire used in this evaluation was a multiple-choice test developed by the authors and had two scales. The technique scale consisted of seven items and tested the persons knowledge of general principles. For example, one item stated: "In helping someone, the helper should

___ 1. keep questions to the minimum

2. keep responses short

3. avoid giving suggestions

4. all of the above

5. none of the above."

The problem-solving scale had eight items which described hypothetical problem situations and ask the respondent to choose the most empathetic response. For example, one question stated: "When helping someone, if the person in need says 'I really don't think that my parents love me. They always put me down when I try to talk with them', the helper should respond by saying:

1. Of course they love you;

2. don't be silly, all parents love their children;

3. sounds like you must've done something pretty terrible, what did you do?;

4. sounds like it hurts a lot when your parents don't listen to you;

5. sounds like everything will work out all right."

The drug knowledge test was also developed by the authors and included 30 multiple choice questions based on material from the manual [27] which was given to all of the workshop participants. The Rosenberg [28] self-esteem scale was used to measure self-esteem of the participants; possible scores range from 42 to 168, with higher scores indicating more self-esteem.

The reliability of each measure was determined by Hoyt's analysis of variance [29] and calculated on the pretest data for the 45 subjects who had complete data. The reliabilities were: .97 for drug usage, .39 for drug knowledge, .74 for self-esteem, .57 for empathy technique and .58 for the empathy problem-solving scale.

Attrition

Twenty-seven of the original 72 subjects were lost through attrition. To test the affect of attrition as well as the effective randomization procedures, a 2x2x2 analysis of variance was conducted on the pretest scores of the dependent variables. The design factors were treatment condition, school, and attrition (yes,no). See Table 1 for the analyses of variance summary table.

School effects. The results of the school effect indicated that there were initial significant differences between the two schools in self-esteem and drug usage. Participants at the urban school used significantly more drugs and had higher self-esteem.

Attrition effects. The results of the attrition effects showed that there was significant differences between participants who completed all the questionnaires and participants who did not on the empathy problem-solving scale. The participants who completed all questionnaires scored significantly higher on the empathy problem-solving scale.

Treatment effects. The crucial analyses for determing whether attrition threatened the internal validity [30] of the evaluation can be ascertained by looking at the results of the analysis of the treatment effect and interactions with treatment. Results showed that there is no main effect of treatment on any of the dependent variables. Thus, the randomization procedure was very effective in equating the experimental and control groups. Furthermore, there were no significant treatment by attrition effects. Thus, even though there were some differences in the people who attrited, these attrition patterns did not vary with the experimental condition. Consequently, the evaluation of the effectiveness of the STRIDE program was not compromised by the loss of participants. There also were no significant treatment by school interaction effects. Nor were there any significant three-way interactions.

Data Analysis of Sample with Complete Data

A 2x2x3 analysis of variance was conducted on each of the dependent variables for the 45 participants who had complete data. There were two between group factors (treatment and school) and one within group factor (time). Table 2 summarizes the results of the analysis of variance. A table of means and standard deviations for each condition appears in Table 3.

Treatment effects. The results indicated a significant treatment effect on the empathy problem-solving variable ($F=9.50$, $p<.01$) and the empathy techique variable ($F=11.70$, $p<.01$). The STRIDE participants were significantly more empathic on both scales. There were no other significant treatment effects on the other dependent variables.

School effects. Results indicated significant school effects on the drug knowledge variable and the empathy problem-solving variable. The urban school used more drugs and scored higher on the empathy problem-solving variable. There were no other significant school effects.

Time effects. Results indicated significant time effects on both the empathy problem-solving variable ($F=7.32$, $p<.04$) and empathy technique variable ($F=4.89$, $p<.04$). Participants became more empathic over time. There were no other significant time effects.

Interactions. There were no significant treatment by school interactions or treatment by time interactions on any of the dependent variables. However, there was a significant school by time interaction effect on the drug usage variable. Participants from the urban school reported decreasing their drug usage over time, while participants from the rural

school reported increasing their usage over time. There was also a significant school by time interaction on the empathy technique variable. While the empathy technique scores of the rural students increased over time, the scores of the urban students exhibited a curvilinear pattern with the lowest scores occurring at time 2.

Treatment Effects

Drug usage. The lack of any significant difference between the STRIDE and control group on the drug usage variable replicates the finding of previous drug education researchers [3,4,5,6,78] in which drug education programs have failed to reduce drug usage. Horan [31] has identified several difficulties in evaluating drug education programs which may partially explain the apparent failure of many drug education programs to reduce drug usage. One of the potential problems raised by Horan involves the difficulty of getting reliable and valid information on an illegal activity, i.e. drug abuse. However, even though the present study used an alias to make self-reports of drug use truly anonymous, the STRIDE program was still unable to register an effect on the drug usage variable. Horan also argues that since most drug education programs are not aimed at chronic drug users, the effects of a drug education program are not likely to be immediate and a longitudinal design is required. While only a few of the participants in the present study had experimented with "hard" drugs, the study did contain a number of alcohol and nicotine abusers, and the study did span an eight month interval. Yet, there was no treatment effect on the drug usage variable. Thus, it does not appear that the failure of the STRIDE program to reduce drug usage can be explained by measurement or design difficulties. Alternatively, it could be argued that

STRIDE staff and other advocates of the self-development approach to drug education have been too non-commital with regard to drug usage. The lack of a clear message against the usage of certain drugs may have been perceived by program participants as tacit approval of these drugs. Evidence regarding the above speculation could be gathered by asking program participants what they thought the position of the workshop sponsors was regarding usage of certain drugs. This type of questioning would be analagous to the manipulation check in laboratory psychology.

Drug knowledge. Failure of the STRIDE program to increase drug knowledge was surprising. Two of the six workshop days were devoted to providing drug information and over-dose aid training. Lecture sections were supplemented with role-playing situations where students practiced being emergency clients or persons providing aid to these clients. Part of the problem may have been that although workshop sponsors had hoped that the workshop participants would become para-professionals capable of giving over-dose aid, workshop participants were not asked to make such a commitment prior to the workshop. Future programming should include such a commitment, if the goal of the workshop sponsors is to develop such para-professionals. However, if development of para-professionals is not a goal of drug educators, failure of the program to produce an increase in drug knowledge should not necessarily be regarded as a sign that the program needs to be revised. As indicated in the introduction of this paper, higher levels of drug knowledge are associated with higher, not lower, levels of drug taking behavior [14,15,16,17].

Self-esteem. The failure to find significant treatment differences on the self-esteem variable probably indicates that self-esteem is not a good variable for measuring the effects of the values clarification; it is probably much too general a measure. Future research on values clarification should develop specific instruments for measuring clarity of values.

Empathy. Although the STRIDE program was not more effective than the control condition in reducing drug usage or increasing self-esteem and drug knowledge, the program was more effective than the control condition in developing empathy skills. Considerable workshop time (two days) was devoted to empathy training. Another day and a half were devoted to the development of related skills, values clarification and problem-solving. This finding replicates the experiences of other evaluators. Walker's [32] review indicates that innovators get change where they commit their resources, but the change does not generalize to other variables. In this project, the workshop trainers clearly considered empathy and related skills as the most essential part of the workshop and spent most of the workshop time on these activities. However, the success of the program in improving empathy skills did not generalize to increases in self-esteem or drug information or a reduction in drug usage.

Conclusion

In summary, the more general implications of the present study are that drug educators should develop clear objectives, state these objectives to the participants, and design a specific program component for each objective. In the present study the objective of developing para-professionals

knowledgeable about drugs and emergency situations may not have been clearly developed in the minds of the program sponsors. Certainly, this was not communicated to the program participants. Similar criticisms can be made of the STRIDE program with regard to the objective of reducing drug usage. From conversations with the STRIDE staff it is not clear whether they perceived a reduction in drug usage by workshop participants as one of their goals. In addition, given the non-authoritarian approach of the STRIDE staff to drug education, it is doubtful that the STRIDE staff gave a clear message to the workshop participants regarding the drug usage objective. Finally, no specific component for encouraging reduction in drug usage was included in the curriculum. In contrast, the empathy objective was clearly formulated by the STRIDE staff and communicated to the workshop participants. In addition, a specific training component was included in the workshop to achieve the empathy objective.

References

1. Wald, P. M., & Abrams, A. Drug education, in the drug abuse survey project. Dealing with Drug Abuse. New York: Praeger, 1972, 123-172.
2. Richards, L. Evaluation in drug education. School Health Review, 1971, 2, 22-27.
3. Brown, E., Jr., & Klein. The effects of drug education programs on attitude change. Journal of Drug Education, 1975, 5(1), 51-56.
4. Jaffee, D., & Clark, T. Unpublished drug education evaluation study, funded by the Department of Health, Education, and Welfare. Behavior Today, 3(46), 1972, 2.
5. Macro System, Inc. Unpublished drug education evaluation study, funded by the Department of Health, Education, and Welfare. Behavior Today, 1972, 3(46), 2.
6. Swisher, J., Warner, R., & Herr, E. Experimental comparison of four approaches to drug abuse prevention among ninth and eleventh graders. Journal of Counseling Psychology, 1972, 19(4), 328-32.
7. Stuart, R. Teaching facts about drugs: Pushing or preventing, (in press). Journal of Abnormal Psychology, 1974.
8. Wong, M. R., & Zimmerman, R. Changes in teachers' attitude toward drugs associated with a "social seminar" course. Journal of Drug Education, 1974, 4(4).
9. DuPont, R. L. Drug-abuse education a failure so far. Los Angeles Times, 1974, 2, pp. 7: 25.
10. Zimering, S. Health and drug education--how effective? (An instrument to evaluate your drug education programs.) Journal of Drug Education, 4(3), 1974, 269-280.

11. Wolfson, E. A., Lavenhar, M. A., Blum, R., Quinones, M. A., Einstein, S., & Louria, D. B. Survey of drug abuse in six New Jersey high schools. 1. Methodology and general findings. In Einstein, S., & Allen, S. (Eds.), Proceedings of the First International Conference on Student Drug Surveys (Sept. 12-15, 1971 Newark, New Jersey) New York: Baywood Publishing Company, Inc., 1972, 25.

12. Polk, K. Drinking and the Adolescent Culture. Unpublished manuscript, Lane County Youth Project, Eugene, Oregon, 1970.

13. Delhi University School of Social Work. Students and drug use: A study conducted among the students of Delhi University. Kamala Nagar, Delhi-7: Rachana Publications, 1972.

14. Capone, T., McLaughlin, J. H., & Smith, F. Peer group leadership program in drug abuse prevention 1970-1971 academic year. Journal of Drug Education, 1973, 3(3), 201.

15. Hoffman, A. Real Research in Drug Education: The Irrelevant Variable, 1971. (ERIC ED, 058 571).

16. Stuart, R. B., & Schuman, M.C. Tripping and Taking in Mid-America: A Survey of Teenage Drug Abuse in Four Michigan Communities. Lansing, Michigan: Office of Drug Abuse and Alcoholism, 1972.

17. Swisher, J., Crawford, J., Goldstein, R., & Yura, M. Drug Education: Pushing or preventing? Peabody Journal of Education, 1971, 55, 68-75.

18. Poe, N., Boynton, K., & Allman, P. A Comparison of Self-Concept, Reflected Self and Ideal Self of Drug Abusers. Unpublished manuscript, Florida Atlantic University, 1972.

19. Samuels, D. J., & Samuels, M. Low self-concept as a cause of drug abuse. Journal of Drug Education, 1974, 4(4), 421-437.

20. Dohner, A. Turned Off Drugs--Turned on to Life. Symposium presented at the meeting of the International Congress on Drug Education, Montreux, Switzerland, October, 1973.

21. Piorkowski, G. H. Drug education at its best--the shaping of values and anti-drug attitudes. Journal of Drug Education, 1973. 3, 31-38.

22. Kane, H. The Challenge of Preventive Drug Education. Symposium presented at the meeting of the International Congress of Drug Education, Montreux, Switzerland, 1973.

23. Meyers, E. The Effects of a Drug Education Program Based on a Causal Approach to Human Behavior. Symposium presented at the meeting of the International Congress on Drug Education, Montreux, Switzerland, 1973.

24. Kagan, N. Can we improve the ways in which people relate to each other? Influencing human interaction, Educational Development Program Report. Michigan State University, East Lansing, Michigan, (36), 1973.

25. Raths, L., Harmin, M., & Simon, S. Values and Teaching. Columbus, Ohio, 196[illegible]

26. Rossi, P. H., Goves, W. E., & Grafstein, D. Life Styles and Campus Communities. Pamphlet-questionnaire, Baltimore: Johns Hopkins University Department of Social Relations, 1971.

27. Smith, R. F., & Smith, L. S. Overdose Aid. Michigan Department of Social Services, 1972.

28. Rosenberg, M. Society and the Adolescent Self-Image. Princeton University Press, Princeton, New Jersey, 1965.

29. Hoyt, C. Test reliability obtained by analysis of variance. Psychometrika, 1941, 6, 153-160.

30. Campbell, D. T. & Stanley, J. C. Experimental and Quasi-experimental designs for research. Chicago: Rand McNally, 1966.

31. Horan, J. H. Outcome difficulties in drug education. Review of Educational Research, 1975, 44, 203-211.

32. Walker, D. F. & Schaffarzick, J. Comparing curricula. Review of Educational Research, 1974, 44, 83-112.

Footnote

[1]The authors wish to thank Mr. William Stevens, former director of the STRIDE program and his staff for their cooperation throughout the project. We are also especially grateful to all of the students and teachers who cooperated in this research effort. Finally we would like to thank JoAnn Ohm for typing the manuscript. Reprint requests should be sent to ~~Dr. Robert Calsyn, Psychology Department, Michigan State University, East Lansing, MI 48824.~~

DR. JAVON JACKSON
1735 Woodland #6
Palo Alto, CA 94303

Table 1

Analysis of Variance Table on Pretest Data

		Drug Usage		Drug Knowledge		Self-Esteem		Empathy Technique		Empathy Problem	
Source	df	F	p<	F	p<	F	p<	F	p<	F	p<
Treatment (T)	1,64	.18	.67	.33	.57	2.21	.14	3.64	.06	1.97	.17
School (S)	1,64	8.78*	.01	.63	.43	4.87*	.03	.15	.70	.98	.38
Attrition (A)	1,64	1.87	.18	3.01	.09	2.70	.11	3.42	.07	4.76*	.03
TxS	1,64	.42	.52	.32	.58	.02	.89	6.56*	.01	.12	.73
TxA	1,64	.38	.54	1.79	.19	.88	.35	.76	.39	.60	.44
SxA	1,64	.05	.82	.99	.33	.72	.40	.38	.51	1.03	.31
TxSxA	1,64	2.10	.15	.23	.63	.91	.34	.57	.45	.09	.77

*Significant at .05 level or beyond

Table 2

Analysis of Variance Table for Participants with Complete Data

Source	df	Drug Usage		Drug Knowledge		Self-Esteem		Empathy Technique		Empathy Problem	
Sourse	af	F	p<	F	p<	F	p<	F	p<	F	p<
Treatment (T)	1,41	.39	.53	1.15	.29	.72	.40	11.77*	.01	9.50*	.01
School (S)	1,41	2.57	.12	8.35*	.01	.98	.33	.00	.99	4.23*	.05
Time (P)	1,41	.01	.95	2.98	.50	.01	.95	4.69*	.04	7.32*	.01
TxS	1,41	.04	.85	.80	.38	1.01	.32	.06	.81	.83	.37
TxP	1,41	.02	.90	1.76	.22	.53	.48	1.76	.43	2.60	.14
SxP	1,41	5.42*	.03	.15	.80	.70	.42	6.18*	.02	1.20	.35
TxSxP	1,41	2.34	.14	1.89	.42	.07	.79	3.44	.07	1.61	.31

*Significant at the .05 level or beyond

Table 3

Means and Standard Deviations for the Participants with Complete Data

Variable	Time		Experimental		Control	
			Rural (N=11)	Urban (N=7)	Rural (N=24)	Urban (N=3)
Drug Usage	Pretest	Mean	179.55	150.86	181.67	129.00
		S.D.*	62.40	83.25	48.73	70.64
	Posttest 1	Mean	179.91	150.43	181.79	132.67
		S.D.	61.30	75.66	46.85	66.48
	Posttest 2	Mean	171.91	159.71	174.84	186.33
		S.D.	80.00	62.31	56.51	38.83
Drug Knowledge	Pretest	Mean	10.00	12.14	10.54	13.67
		S.D.	3.29	4.71	3.20	.58
	Posttest 1	Mean	11.36	15.57	11.04	12.33
		S.D.	2.73	4.28	3.16	4.51
	Posttest 2	Mean	10.64	15.14	11.46	12.33
		S.D.	3.30	4.10	2.67	.58
Self-Esteem	Pretest	Mean	84.46	90.71	79.17	96.33
		S.D.	24.35	17.19	12.52	13.65
	Posttest 1	Mean	80.00	91.14	83.83	103.00
		S.D.	24.93	14.42	16.56	14.80
	Posttest 2	Mean	79.00	87.43	81.79	97.00
		S.D.	26.35	17.42	14.27	25.24

Table 3 continued

Variable	Time		Experimental Rural (N=11)	Experimental Urban (N=7)	Control Rural (N=24)	Control Urban (N=3)
Empathy Technique	Pretest	Mean	3.18	3.85	2.87	2.00
		S.D.	1.17	1.68	1.51	.00
	Posttest 1	Mean	4.55	3.71	2.88	1.33
		S.D.	1.51	1.80	1.54	1.16
	Posttest 2	Mean	4.46	4.86	3.00	5.00
		S.D.	1.86	.90	1.32	1.00
Empathy	Pretest	Mean	3.27	4.29	3.00	4.33
		S.D.	1.79	2.06	1.50	1.53
	Posttest 1	Mean	5.09	4.57	3.00	4.67
		S.D.	1.30	2.15	1.06	2.08
	Posttest 2	Mean	4.46	5.71	3.79	5.00
		S.D.	1.64	.76	1.59	1.00

*S.D. means Standard Deviation